UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,558	10/09/2001	John C. Lynk	14426ROUS01U	7814

626 7590 12/05/2006

NORTEL NETWORKS LIMITED
3500 CARLING AVENUE
OTTAWA, ON K2H 8E9
CANADA

EXAMINER	
LIN, KENNY S	

ART UNIT	PAPER NUMBER
2152	

DATE MAILED: 12/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary for Applications Under Accelerated Examination	Application No.	Applicant(s)	
	09/973,558	LYNK ET AL.	
	Examiner	Art Unit	
	Kenny Lin	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Since this application has been granted special status under the accelerated examination program, NO extensions of time under 37 CFR 1.136(a) will be permitted and a SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE:

ONE MONTH OR THIRTY (30) DAYS, WHICHEVER IS LONGER,
FROM THE MAILING DATE OF THIS COMMUNICATION – if this is a non-final action or a *Quayle* action.
(Examiner: For **FINAL** actions, please use PTOL-326.)

The objective of the accelerated examination program is to complete the examination of an application within twelve months from the filing date of the application. Any reply must be filed electronically via EFS-Web so that the papers will be expeditiously processed and considered. If the reply is not filed electronically via EFS-Web, the final disposition of the application may occur later than twelve months from the filing of the application.

Status

1)☒ Responsive to communication(s) filed on *15 August 2006*.

2)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

3)☒ Claim(s) *1-10,13-22 and 25-28* is/are pending in the application.
3a) Of the above claim(s) _____ is/are withdrawn from consideration.

4)☐ Claim(s) _____ is/are allowed.

5)☒ Claim(s) *1-10,13-22 and 25-28* is/are rejected.

6)☐ Claim(s) _____ is/are objected to.

7)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

8)☐ The specification is objected to by the Examiner.

9)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

10)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

11)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

- See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-10, 13-22 and 25-28 are presented for examination. Claims 11-12 and 23-24 are canceled.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/15/2006 has been entered.

Requirement for Information

3. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application. Applicant is required to submit disclosure regarding the use of JKLM Indexing Scheme. The information is required to identify products and services embodying the disclosed subject matter of JKLM Indexing Scheme and identify the properties of similar products and services found in the prior art.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-10, 13-22 and 25-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Nowhere in the specification disclosed that the processor is operated irrespective of traffic data flow rate to process the received logical connection parameters. The specification is silent regarding whether the operation is processed respective or irrespective to traffic data flow rate. Nowhere in the specification even mention network traffic. The disclosure of processing logical connection parameters in the specification does not exclude the process to be operated without traffic data flow rate. How could one of ordinary skill in the art concludes that the operation is performed irrespective of traffic data flow rate when the specification fails to disclose this?

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-5, 8, 10-12, 14, 16-21, and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pitchaikani et al (Pitchaikani), US 6,061,505, in view of Schenkel et al (Schenkel), US 5,933,416.

8. Pitchaikani and Schenkel were cited in the previous office action.

9. As per claims 1 and 17, Pitchaikani taught the invention substantially as claimed including a processing apparatus arranged to be coupled to a network of nodes linked together by physical connections (col.4, lines 15-24), the processing apparatus comprising:

a. A receiver that operates to receive at least one logical connection parameter associated with each of at least one port within a plurality of the nodes (col.2, lines 25-38, 40-50, col.4, lines 28-32, 43-48, 54-63, col.6, lines 33-35, 40-47: connectivity information and station status information);

b. Said logical connection parameter comprising at least one of a logical connection user label, span IP address or logical connection channel information (table I: logical address of the device, physical address of the interface, user-friendly name of the device, name of the symbol representing the device); and

c. A processor, coupled to the receiver, that operates irrespective of traffic data flow rate to process the received logical connection parameters (col.4, lines 57-65).

10. Pitchaikani did not specifically teach that the logical connection parameters are processed in order to predict at least one physical connection between two of the ports within the plurality

of nodes based upon the results of the processing. Schenkel taught that various measures of similarity can be used to determine the communication path coupling (col.2, lines 7-9, col.3, lines 66-67, col.4, lines 1-12) where the measurement can be directly from observations made inside a device that is irrespective of traffic data flow rate such as CPU utilization in the device (col.3, lines 66-67, col.4, lines 6-7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Pitchaikani and Schenkel because Schenkel's teaching of processing to measure similarity in the parameters to determine communication path coupling enables Pitchanikani's system to determine a suitable physical connection between two similar ports (see Schenkel: col.2, lines 7-14).

11. As per claim 18, Pitchaikani taught the invention substantially as claimed including a method of predicting at least one physical connection within a network of nods linked together by physical connections (col.4, lines 15-24), the method comprising:

a. Receiving at least one logical connection parameter associated with each of at least one port within a plurality of the nodes (col.2, lines 25-27, 31-38, 40-50, col.4, lines 28-32, 43-48);
b. Said logical connection parameter comprising at least one of a logical connection user label, span IP address or logical connection channel information (table I: logical address of the device, physical address of the interface, user-friendly name of the device, name of the symbol representing the device); and
c. Processing the received logical connection parameters irrespective of traffic data flow rate (col.4, lines 57-65).

12. Pitchaikani did not specifically teach to predict at least one physical connection between two of the ports within the plurality of nodes based upon the results of the processing. Schenkel taught that various measures of similarity can be used to determine the communication path coupling (col.2, lines 7-9, col.3, lines 66-67, col.4, lines 1-12) where the measurement can be directly from observations made inside a device that is irrespective of traffic data flow rate such as CPU utilization in the device (col.3, lines 66-67, col.4, lines 6-7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Pitchaikani and Schenkel because Schenkel's teaching of processing to measure similarity in the parameters to determine communication path coupling enables Pitchanikani's system to determine a suitable physical connection between two similar ports (see Schenkel: col.2, lines 7-14).

13. As per claim 26, Pitchaikani taught the invention substantially as claimed including a network comprising:

a. A plurality of nodes linked together by physical connections (col.4, lines 15-24);

b. At least one processing apparatus arranged to be coupled to the nodes, the processing apparatus operating to received at least one logical connection parameter associated with each of at least one port within a plurality of the nodes (col.2, lines 25-27, 31-38, 40-50, col.4, lines 15-24, 28-32, 43-48; station 120); said logical connection parameter comprising at least one of a logical connection user label, span IP address or logical connection channel information (table I:

logical address of the device, physical address of the interface, user-friendly name of the device, name of the symbol representing the device); and

c. Process the received logical connection parameters irrespective of traffic data flow rate (col.4, lines 57-65).

14. Pitchaikani did not specifically teach that the logical connection parameters are processed in order to predict at least one physical connection between two of the ports within the plurality of nodes based upon the results of the processing. Schenkel taught that various measures of similarity can be used to determine the communication path coupling (col.2, lines 7-9, col.3, lines 66-67, col.4, lines 1-12) where the measurement can be directly from observations made inside a device that is irrespective of traffic data flow rate such as CPU utilization in the device (col.3, lines 66-67, col.4, lines 6-7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Pitchaikani and Schenkel because Schenkel's teaching of processing to measure similarity in the parameters to determine communication path coupling enables Pitchanikani's system to determine a suitable physical connection between two similar ports (see Schenkel: col.2, lines 7-14).

15. As per claims 2 and 19, Pitchaikani and Schenkel taught the invention substantially as claimed in claims 1 and 18. Schenkel further taught to process the received logical connection parameters, the processor operates to, for a first one of the two ports, determine at least one most probable port that the first port is physically connected to, this most probable port being the second of the two ports (col.2, lines 7-9, col.5, lines 1-26).

16. As per claims 3 and 20, Pitchaikani and Schenkel taught the invention substantially as claimed in claims 1 and 18. Schenkel further taught to process the received logical connection parameters, the processor operates to, for a first one of the two ports, determine a set of most probable ports that the first port is physically connected to, this set of most probable ports including the second of the two ports (col.2, lines 7-9, col.5, lines 1-26, col.9, lines 12-18).

17. As per claims 4 and 21, Pitchaikani and Schenkel taught the invention substantially as claimed in claims 3 and 20. Schenkel further taught to determine a set of most probable ports that the first port is physically connected to, the processor operates to determine a port similarity variable for a plurality of the ports when compared to the first port; and insert all ports that were determined to have the largest port similarity variable within the set of most probable ports (col.2, lines 7-9, col.5, lines 1-26, col.9, lines 12-18).

18. As per claim 5, Pitchaikani and Schenkel taught the invention substantially as claimed in claim 3. Schenkel further taught that the port similarity variable for each of the ports when compared to the first port is equal to the number of logical connections that are identical between the first port and the particular port that the port similarity variable is being determined for (col.2, lines 7-9, col.5, lines 1-26, col.9, lines 12-18).

19. As per claim 8, Pitchaikani and Schenkel taught the invention substantially as claimed in claim 1. Pitchaikani further taught that if there are a plurality of logical connection parameters

associated with each of the at least one ports, the processor selects one or more of the plurality of logical connection parameters to predict the at least one physical connection (col.4, lines 57-65).

20. As per claim 10, Pitchaikani and Schenkel taught the invention substantially as claimed in claim 1. Schenkel further taught to predict at least one physical connection between two of the ports within the plurality of nodes, the processor operates to predict physical connections between a plurality of pairs of the plurality of nodes based upon the results of the processing (col.2, lines 7-9, col.5, lines 1-26, col.9, lines 12-18).

21. As per claims 14 and 25, Pitchaikani and Schenkel taught the invention substantially as claimed in claims 1 and 18. Schenkel further taught the processor predicts at least one physical connection between two of the ports within the plurality of nodes based upon the results of the processing and based upon known physical connection information with respect to the network (col.2, lines 7-9, col.5, lines 1-26, col.9, lines 12-18).

22. As per claims 16 and 27, Pitchaikani and Schenkel taught the invention substantially as claimed in claims 1 and 26. Pitchaikani further taught to receive at least one logical connection parameter associated with each of at least one port within a plurality of the nodes, the receiver operates to receive stored information from a database (col.5, lines 6-25).

23. Claims 6-7, 9, 13, 15, 22 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pitchaikani and Schenkel as applied to claims 1-5, 8, 10-12, 14, 16-21 and 24-27 above, and further in view of "Official Notice".

24. As per claims 6, Pitchaikani and Schenkel taught the invention substantially as claimed in claim 1. Schenkel further taught to process the received logical connection parameters, for a first one of the two ports, determine a set of most probable ports that the first port is physically connected to, this set of most probable ports including the second of the two ports (col.2, lines 7-9, col.5, lines 1-26, col.9, lines 12-18). Pitchaikani and Schenkel did not specifically taught to sort the ports within the plurality of nodes based upon the number of logical connections at the ports. However, it is obvious to sort ports to place the ports in specific order. Official Notice is taken that the concept and advantage of sorting is well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Pitchaikani and Schenkel and further sort the ports in a preferable order to enable easy search and reading of the information.

25. As per claim 7, Pitchaikani and Schenkel taught the invention substantially as claimed in claim 6. Schenkel further taught to determine a set of most probable ports that the first port is physically connected to, the processor operates to determine a port similarity variable for a plurality of the ports when compared to the first port; and insert all ports that were determined to have the largest port similarity variable within the set of most probable ports (col.2, lines 7-9, col.5, lines 1-26, col.9, lines 12-18). Pitchaikani and Schenkel did not specifically teach the

processor to start operating with the port with the largest number of logical connections and proceeding until a subsequent port would have a number of logical connections less than the largest port similarity variable already determined. However, it is obvious to place the ports in a specific order for operation. Official Notice is taken that the limitations narrowed by these claims are consider obvious and furthermore a matter of design choice. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Pitchaikani and Schenkel and further placing the ports in a specific order of one's desire for operation in Pitchaikani and Schenkel's system.

26. As per claim 9, Pitchaikani and Schenkel taught the invention substantially as claimed in claim 8. Pitchaikani and Schenkel did not specifically teach that the selecting is performed with a graphical user interface integral to said processor. However, Official Notice is taken that the concept and advantage of using a graphical user interface for controlling processors is well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Pitchaikani and Schenkel and further provide a GUI for the users of Pitchaikani and Schenkel to control and select the preferred parameters for operation.

27. As per claim 13, Pitchaikani and Schenkel taught the invention substantially as claimed in claim 3. Pitchaikani and Schenkel did not specifically teach that if multiple ports are included within the set of most probable ports, a span address associated with each port is used to determine the port with which there is a physical connection. However, Pitchaikani taught to use

identifiers to determine the ports (Table 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Pitchaikani and Schenkel and also use span address as identifiers to determine the ports with physical connections from the physical connection information received (Pitchaikani, col.2, lines 39-50).

28. As per claim 15, Pitchaikani and Schenkel taught the invention substantially as claimed in claim 14. Pitchaikani and Schenkel did not specifically teach that the known physically connection information comprises information generated within an auto discovery procedure. However, it is obvious to include various types of information in the physical connection information. Official Notice it taken that the limitations narrowed by these claims are consider obvious and furthermore a matter of design choice. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Pitchaikani and Schenkel and further include all useful information in the physical connection information valuable to the users of Pitchaikani and Schenkel's system.

29. As per claim 22, Pitchaikani and Schenkel taught the invention substantially as claimed in claim 18. the processing step comprises: for a first one of two ports, determining a port similarity variable for a plurality of the ports when compared to the first port; and inserting all ports that were determined to have the largest port similarly variable within a set of most probable ports that the first port is physically connected to, this set of most probable ports including the second of the two ports (col.2, lines 7-9, col.5, lines 1-26, col.9, lines 12-18). Pitchaikani and Schenkel did not specifically taught to sort the ports within the plurality of nodes

based upon the number of logical connections at the ports and start operating with the port with the largest number of logical connections and proceeding until a subsequent port would have a number of logical connections less than the largest port similarity variable already determined. However, it is obvious to sort ports to place the ports in specific order for operation. Official Notice is taken that the concept and advantage of sorting is well known and expected in the art. Official Notice is taken that the limitations narrowed by these claims are consider obvious and furthermore a matter of design choice. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Pitchaikani and Schenkel and further placing the ports in a specific order of one's desire using sorting methods for operation in Pitchaikani and Schenkel's system.

30. As per claim 28, Pitchaikani and Schenkel taught the invention substantially as claimed in claim 26. Pitchaikani and Schenkel did not specifically teach that the network is an optical network. However, Official Notice is taken that it would have been obvious to apply the teaching of Pitchaikani and Schenkel to all compatible networks. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Pitchaikani and Schenkel and further implement such teachings to all compatible networks including optical network.

Response to Arguments

31. Applicant's arguments filed 8/15/2006 have been fully considered but they are not persuasive.

32. In the remark, applicant argued (1) Neither Pitchaikani or Schenkel teach or suggest the processing of said logical connection parameters at any traffic data flow rate to predict at least one physical connection between two of the ports. (2) Pitchaikani does not disclose the logical connection parameters recited in the claims. (3) Schenkel uses traffic monitoring data as the logical connection parameters as specified in col.4, lines 13-14.

33. Examiner traverse the arguments:

As to points (1) and (2), Pitchaikani taught the logical connection parameters in table I to include at least one of a logical connection user label, span IP address or logical connection channel information (table I: logical address of the device, physical address of the interface, user-friendly name of the device, name of the symbol representing the device). These parameters are clearly irrespective of the traffic data flow rate (e.g. user label such as symbol representing the device is not traffic related).

As to point (3), Schenkel taught that various measures of similarity can be used to determine the communication path coupling (col.2, lines 7-9, col.3, lines 66-67, col.4, lines 1-12) where the measurement can be directly from observations made inside a device such as CPU utilization in the device (col.3, lines 66-67, col.4, lines 6-7). Although the *CPU utilization* is construed in Schenkel's reference as "traffic", the term "traffic" referring to is contrary to the definition of "**traffic data flow rate**". Therefore, Schenkel's measurement is irrespective to traffic data flow rate. Furthermore, Pitchaikani taught to process the received logical connection parameters

irrespective of traffic data flow rate (col.4, lines 57-65; table I: user label such as symbol representing the device is not traffic related).

Conclusion

34. A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action.

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenny Lin whose telephone number is (571) 272-3968. The examiner can normally be reached on 8 AM to 5 PM Tue.-Fri. and every other Monday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ksl
November 30, 2006